

Before Alzheimer's Disease: novel mechanism of amyloid precursor protein signaling in adult healthy brain

<https://neurodegenerationresearch.eu/survey/before-alzheimer%c2%92s-disease-novel-mechanism-of-amyloid-precursor-protein-signaling-in-adult-healthy-brain/>

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Before Alzheimer's Disease: novel mechanism of amyloid precursor protein signaling in adult healthy brain

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Research Abstract

Any pathological process (except for infections) is a vicious turn of a normally occurring event. When or why this turn occurs in Alzheimer's disease (AD) remains a significant scientific problem. Most of the research efforts focus on the outcome of this turn –

neurotoxic extracellular amyloid plaques in the brain. The role of the amyloid protein (APP) forming these plates is still unclear, although its involvement in neuritogenesis and neuronal migration has been studied, both adult and embryonic stages. Studies are usually performed in aged brain, transgenic or knockout animal models and focus on protein fragments generated from

various enzymatic processes, rather than on the full protein.

This project proposes a change of perspective from aging brain towards the healthy adult brain, hypothesizing that full APP possesses matrix-related signaling abilities, not limited to nervous tissue. As cellular mechanism, we propose an oligomerization model, dependent on membrane microdomains, which creates the prerequisites for signaling and proper protein metabolism.

Not only the project will use advanced techniques (mass spectroscopy, FRET spectrophotometry,

non-denaturing electrophoresis native), but aims to customize the protocols for the proposed hypotheses.

Further information available at:

<http://www.ivb.ro/v2/index.php/en/2012-11-30-13-03-3/34-default/387-hr>

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